Clean Copy of Replacement Paragraphs

SEQUENCE LISTING

<110> CIS Biotech, Inc.
Dambinova, Svetlana

<120> Rapid multiple panel of bimarkers in laboratory blood tests for TIA/stroke

<130> 08805.105001

<140> US 09/922,011
<141> 2001-08-02

<160> 17

<170> PatentIn version 3.1

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Ala Leu Asn Ile Ala Val Leu Leu Gly His Ser His Asp Val Thr Glu
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Arg Glu Leu Arg Asn Leu Trp Gly Pro Glu Gln Ala Thr Gly Leu Pro
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Leu Asp Val Asn Val Val Ala Leu Leu Met Asn Arg Thr Asp Pro Lys
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Ser Leu Ile Thr His Val Cys Asp Leu Met Ser Gly Ala Arg Ile His
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Gly Leu Val Phe Gly Asp Asp Thr Asp Gln Glu Ala Val Ala Gln Met
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Leu Asp Phe Ile Ser Ser Gln Thr Phe Ile Pro Ile Leu Gly Ile His
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Gly Gly Ala Ser Met Ile Met Ala Asp Lys Asp Pro Thr Ser Thr Phe
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Phe Gln Phe Gly Ala Ser Ile Gln Gln Gln Ala Thr Val Met Leu Lys
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Ile Met Gln Asp Tyr Asp Trp His Val Phe Ser Leu Val Thr Thr Ile
                165                 170                 175

Phe Pro Gly Tyr Arg Asp Phe Ile Ser Phe Ile Lys Thr Thr Val Asp
            180                 185                 190

Asn Ser Phe Val Gly Trp Asp Met Gln Asn Val Ile Thr Leu Asp Thr
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Ser Phe Glu Asp Ala Lys Thr Gln Val Gln Leu Lys Lys Ile His Ser
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Ser Val Ile Leu Leu Tyr Cys Ser Lys Asp Glu Ala Val Leu Ile Leu
225                 230                 235                 240

Ser Glu Ala Arg Ser Leu Gly Leu Thr Gly Tyr Asp Phe Phe Trp Ile
                245                 250                 255

Val Pro Ser Leu Val Ser Gly Asn Thr Glu Leu Ile Pro Lys Glu Phe
            260                 265                 270

Pro Ser Gly Leu Ile Ser Val Ser Tyr Asp Asp Trp Asp Tyr Ser Leu
        275                 280                 285

Glu Ala Arg Val Arg Asp Gly Leu Gly Ile Leu Thr Thr Ala Ala Ser
    290                 295                 300

Ser Met Leu Glu Lys Phe Ser Tyr Ile Pro Glu Ala Lys Ala Ser Cys
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Tyr Gly Gln Ala Glu Lys Pro Glu Thr Pro Leu His Thr Leu His Gln
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Phe Met Val Asn Val Thr Trp Asp Gly Lys Asp Leu Ser Phe Thr Glu
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Glu Gly Tyr Gln Val His Pro Arg Leu Val Val Ile Val Leu Asn Lys
        355                 360                 365

Asp Arg Glu Trp Glu Lys Val Gly Lys Trp Glu Asn Gln Thr Leu Ser
    370                 375                 380

Leu Arg His Ala Val Trp Pro Arg Tyr Lys Ser Phe Ser Asp Cys Glu
385                 390                 395                 400

Pro Asp Asp Asn His Leu Ser Ile Val Thr Leu Glu Glu Ala Pro Phe
                405                 410                 415

Val Ile Val Glu Asp Ile Asp Pro Leu Thr Glu Thr Cys Val Arg Asn
            420                 425                 430

Thr Val Pro Cys Arg Lys Phe Val Lys Ile Asn Asn Ser Thr Asn Glu
        435                 440                 445

Gly Met Asn Val Lys Lys Cys Cys Lys Gly Phe Cys Ile Asp Ile Leu
    450                 455                 460

Lys Lys Leu Ser Arg Thr Val Lys Phe Thr Tyr Asp Leu Tyr Leu Val
465                 470                 475                 480

Thr Asn Gly Lys His Gly Lys Lys Val Asn Asn Val Trp Asn Gly Met
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Ile Gly Glu Val Val Tyr Gln Arg Ala Val Met Ala Val Gly Ser Leu
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Thr Ile Asn Glu Glu Arg Ser Glu Val Val Asp Phe Ser Val Pro Phe
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Val Glu Thr Gly Ile Ser Val Met Val Ser Arg Ser Asn Gly Thr Val
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Ser Pro Ser Ala Phe Leu Glu Pro Phe Ser Ala Ser Val Trp Val Met
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Met Phe Val Met Leu Leu Ile Val Ser Ala Ile Ala Val Phe Val Phe
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Glu Tyr Phe Ser Pro Val Gly Tyr Asn Arg Asn Leu Ala Lys Gly Lys
580 585 590

Ala Pro His Gly Pro Ser Phe Thr Ile Gly Lys Ala Ile Trp Leu Leu
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Trp Gly Leu Val Phe Asn Asn Ser Val Pro Val Gln Asn Pro Lys Gly
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Thr Thr Ser Lys Ile Met Val Ser Val Trp Ala Phe Phe Ala Val Ile
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Glu Phe Val Asp Gln Val Thr Gly Leu Ser Asp Lys Lys Phe Gln Arg
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Tyr Lys Ala Gly Arg Asp Glu Gly Cys Lys Leu Val Thr Ile Gly Ser
            740                 745                 750

Gly Tyr Ile Phe Ala Ser Thr Gly Tyr Gly Ile Ala Leu Gln Lys Gly
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Ser Pro Trp Lys Arg Gln Ile Asp Leu Ala Leu Leu Gln Phe Val Gly
    770                 775                 780

Asp Gly Glu Met Glu Glu Leu Glu Thr Leu Trp Leu Thr Gly Ile Cys
785                 790                 795                 800

His Asn Glu Lys Asn Glu Val Met Ser Ser Gln Leu Asp Ile Asp Asn
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Met Ala Gly Val Phe Tyr Met Leu Ala Ala Ala Met Ala Leu Ser Leu
            820                 825                 830

Ile Thr Phe Ile Trp Glu His Leu Phe Tyr Trp Lys Leu Arg Phe Cys
        835                 840                 845

Phe Thr Gly Val Cys Ser Asp Arg Pro Gly Leu Leu Phe Ser Ile Ser
    850                 855                 860

Arg Gly Ile Tyr Ser Cys Ile His Gly Val His Ile Glu Glu Lys Lys
865                 870                 875                 880

Lys Ser Pro Asp Phe Asn Leu Thr Gly Ser Gln Ser Asn Met Leu Lys
                885                 890                 895

Leu Leu Arg Ser Ala Lys Asn Ile Ser Asn Met Ser Asn Met Asn Ser
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Ser Arg Met Asp Ser Pro Lys Arg Ala Thr Asp Phe Ile Gln Arg Gly
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Asp Asn Arg Ser Phe Gln Gly Lys Asp Ser Ile Phe Gly Asp Asn Met
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Asn Glu Leu Gln Thr Phe Val Ala Asn Arg His Lys Asp Asn Leu Ser
                965                 970                 975

Asn Tyr Val Phe Gln Gly Gln His Pro Leu Thr Leu Asn Glu Ser Asn
            980                 985                 990

Pro Asn Thr Val Glu Val Ala Val  Ser Thr Glu Ser Lys  Gly Asn Ser
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Arg Pro  Arg Gln Leu Trp Lys  Lys Ser Met Glu Ser  Leu Arg Gln
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Asp Ser  Leu Asn Gln Asn Pro  Val Ser Gln Arg Asp  Glu Lys Thr
    1025                1030                1035

Ala Glu  Asn Arg Thr His Ser  Leu Lys Ser Pro Arg  Tyr Leu Pro
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Glu Glu  Val Ala His Ser Asp  Ile Ser Glu Thr Ser  Ser Arg Ala
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Thr Cys  His Arg Glu Pro Asp  Asn Asn Lys Asn His  Lys Thr Lys
    1070                1075                1080

Asp Asn  Phe Lys Arg Ser Met  Ala Ser Lys Tyr Pro  Lys Asp Cys
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Ser Asp  Val Asp Arg Thr Tyr  Met Lys Thr Lys Ala  Ser Ser Pro
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Arg Asp  Lys Ile Tyr Thr Ile  Asp Gly Glu Lys Glu  Pro Ser Phe
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Arg Lys Gly Asp Ser Thr Leu Pro Met Asn Arg Asn Pro Leu His
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Asn Glu Asp Gly Leu Pro Asn Asn Asp Gln Tyr Lys Leu Tyr Ala
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Lys His Phe Thr Leu Lys Asp Lys Gly Ser Pro His Ser Glu Gly
1190 1195 1200

Ser Asp Arg Tyr Arg Gln Asn Ser Thr His Cys Arg Ser Cys Leu
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Ser Asn Leu Pro Thr Tyr Ser Gly His Phe Thr Met Arg Ser Pro
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Phe Lys Cys Asp Ala Cys Leu Arg Met Gly Asn Leu Tyr Asp Ile
1235 1240 1245

Asp Glu Asp Gln Met Leu Gln Glu Thr Gly Asn Pro Ala Thr Arg
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Glu Glu Val Tyr Gln Gln Asp Trp Ser Gln Asn Asn Ala Leu Gln
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Phe Gln Lys Asn Lys Leu Arg Ile Asn Arg Gln His Ser Tyr Asp
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Asn Ile Leu Asp Lys Pro Arg Glu Ile Asp Leu Ser Arg Pro Ser
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Arg Ser Ile Ser Leu Lys Asp Arg Glu Arg Leu Leu Glu Gly Asn

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Leu Tyr Gly Ser Leu Phe Ser Val Pro Ser Ser Lys Leu Leu Gly
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Asn Lys Ser Ser Leu Phe Pro Gln Gly Leu Glu Asp Ser Lys Arg
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Ser Lys Ser Leu Leu Pro Asp His Ala Ser Asp Asn Pro Phe Leu
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His Thr Tyr Gly Asp Asp Gln Arg Leu Val Ile Gly Arg Cys Pro
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Ser Tyr Leu Arg Ser Ser Leu Arg Ser Thr Ala Ser Tyr Cys Ser
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Arg Asp Ser Arg Gly His Ser Asp Val Tyr Ile Ser Glu His Val
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Met Pro Tyr Ala Ala Asn Lys Asn Thr Met Tyr Ser Thr Pro Arg
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35 40 45

Val Val Ala Leu Leu Met Asn Arg Thr Asp Pro Lys Ser Leu Ile Thr
50 55 60

His Val Cys Asp Leu Met Ser Gly Ala Arg Ile His Gly Leu Val Phe
65 70 75 80

Gly Asp Asp Thr Asp Gln Glu Ala Val Ala Gln Met Leu Asp Phe Ile
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Ser Ser Gln Thr Phe Ile Pro Ile Leu Gly Ile His Gly Gly Ala Ser
100 105 110

Met Ile Met Ala Asp Lys Asp Pro Thr Ser Thr Phe Phe Gln Phe Gly
115 120 125

Ala Ser Ile Gln Gln Gln Ala Thr Val Met Leu Lys Ile Met Gln Asp
130 135 140

Tyr Asp Trp His Val Phe Ser Leu Val Thr Thr Ile Phe Pro Gly Tyr
145 150 155 160

Arg Asp Phe Ile Ser Phe Ile Lys Thr Thr Val Asp Asn Ser Phe Val
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Gly Trp Asp Met Gln Asn Val Ile Thr Leu Asp Thr Ser Phe Glu Asp
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Ala Lys Thr Gln Val Gln Leu Lys Lys Ile His Ser Ser Val Ile Leu
195 200 205

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Leu Tyr Cys Ser Lys Asp Glu Ala Val Leu Ile Leu Ser Glu Ala Arg
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Ser Leu Gly Leu Thr Gly Tyr Asp Phe Phe Trp Ile Val Pro Ser Leu
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Val Ser Gly Asn Thr Glu Leu Ile Pro Lys Glu Phe Pro Ser Gly Leu
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Ile Ser Val Ser Tyr Asp Asp Trp Asp Tyr Ser Leu Glu Ala Arg Val
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Arg Asp Gly Leu Gly Ile Leu Thr Thr Ala Ala Ser Ser Met Leu Glu
        275                 280                 285

Lys Phe Ser Tyr Ile Pro Glu Ala Lys Ala Ser Cys Tyr Gly Gln Ala
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Glu Lys Pro Glu Thr Pro Leu His Thr Leu His Gln Phe Met Val Asn
305                 310                 315                 320

Val Thr Trp Asp Gly Lys Asp Leu Ser Phe Thr Glu Glu Gly Tyr Gln
                325                 330                 335

Val His Pro Arg Leu Val Val Ile Val Leu Asn Lys Asp Arg Glu Trp
            340                 345                 350

Glu Lys Val Gly Lys Trp Glu Asn Gln Thr Leu Ser Leu Arg His Ala
        355                 360                 365

Val Trp Pro Arg Tyr Lys Ser Phe Ser Asp Cys Glu Pro Asp Asp Asn
    370                 375                 380

His Leu Ser Ile Val Thr Leu Glu Glu Ala Pro Phe Val Ile Val Glu
385                 390                 395                 400

Asp Ile Asp Pro Leu Thr Glu Thr Cys Val Arg Asn Thr Val Pro Cys
                405                 410                 415
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Arg Lys Phe Val Lys Ile Asn Asn Ser Thr Asn Glu Gly Met Asn Val
            420                 425                 430

Lys Lys Cys Cys Lys Gly Phe Cys Ile Asp Ile Leu Lys Lys Leu Ser
        435                 440                 445

Arg Thr Val Lys Phe Thr Tyr Asp Leu Tyr Leu Val Thr Asn Gly Lys
    450                 455                 460

His Gly Lys Lys Val Asn Asn Val Trp Asn Gly Met Ile Gly Glu Val
465                 470                 475                 480

Val Tyr Gln Arg Ala Val Met Ala Val Gly Ser Leu Thr Ile Asn Glu
                485                 490                 495

Glu Arg Ser Glu Val Val Asp Phe Ser Val Pro Phe Val Glu Thr Gly
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gcggggctgc ccctggacgt gaacgtggta gctctgctga tgaaccgcac cgaccccaag 1
80

agcctcatca cgcacgtgtg cgacctcatg tccggggcac gcatccacgg cctcgtgttt 2
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ggggacgaca cggaccagga ggccgtagcc cagatgctgg attttatctc ctcccacacc 3
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60

acgtctacct tcttccagtt tggagcgtcc atccagcagc aagccacggt catgctgaag 4
20

atcatgcagg attatgactg gcatgtcttc tccctggtga ccactatctt ccctggctac 4
80

agggaattca tcagcttcgt caagaccaca gtggacaaca gctttgtggg ctgggacatg 5
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cagaatgtga tcacactgga cacttccttt gaggatgcaa agacacaagt ccagctgaag 6
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aagatccact cttctgtcat cttgctctac tgttccaaag acgaggctgt tctcattctg 6
60

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tacgatgact gggactacag cctggaggcg agagtgaggg acggcattgg catcctaacc 8
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ctggtggtga ttgtgctgaa caaagaccgg gaatgggaaa aggtgggcaa gtgggagaac 10
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80

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<211> 62
<212> DNA
<213> homo sapiens

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tc
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<211> 21
<212> DNA
<213> artificial sequence

<220>
<223> oligonucleotide primer

<400> 8
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<210> 9
<211> 21
<212> DNA
<213> artificial sequence

<220>
<223> oligonucleotide primer

<400> 9
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21

<210> 10
<211> 1480
<212> PRT
<213> homo sapiens

<400> 10

Met Lys Pro Arg Ala Glu Cys Cys Ser Pro Lys Phe Trp Leu Val Leu
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Ala Val Leu Ala Val Ser Gly Ser Arg Ala Arg Ser Gln Lys Ser Pro
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Pro Ser Ile Gly Ile Ala Val Ile Leu Val Gly Thr Ser Asp Glu Val
35 40 45

Ala Ile Lys Asp Ala His Glu Lys Asp Asp Phe His His Leu Ser Val
50 55 60

Val Pro Arg Val Glu Leu Val Ala Met Asn Glu Thr Asp Pro Lys Ser
65 70 75 80

Ile Ile Thr Arg Ile Cys Asp Leu Met Ser Asp Arg Lys Ile Gln Gly
85 90 95

Val Val Phe Ala Asp Asp Thr Asp Gln Glu Ala Ile Ala Gln Ile Leu
100 105 110

Asp Phe Ile Ser Ala Gln Thr Leu Thr Pro Ile Leu Gly Ile His Gly
115 120 125

Gly Ser Ser Met Ile Met Ala Asp Lys Asp Glu Ser Ser Met Phe Phe
130 135 140

Gln Phe Gly Pro Ser Ile Glu Gln Gln Ala Ser Val Met Leu Asn Ile
145 150 155 160

```
Met Glu Glu Tyr Asp Trp Tyr Ile Phe Ser Ile Val Thr Thr Tyr Phe
                165                 170                 175

Pro Gly Tyr Gln Asp Phe Val Asn Lys Ile Arg Ser Thr Ile Glu Asn
            180                 185                 190

Ser Phe Val Gly Trp Glu Leu Glu Glu Val Leu Leu Leu Asp Met Ser
        195                 200                 205

Leu Asp Asp Gly Asp Ser Lys Ile Gln Asn Gln Leu Lys Lys Leu Gln
    210                 215                 220

Ser Pro Ile Ile Leu Leu Tyr Cys Thr Lys Glu Glu Ala Thr Tyr Ile
225                 230                 235                 240

Phe Glu Val Ala Asn Ser Val Gly Leu Thr Gly Tyr Gly Tyr Thr Trp
                245                 250                 255

Ile Val Pro Ser Leu Val Ala Gly Asp Thr Asp Thr Val Pro Ala Glu
            260                 265                 270

Phe Pro Thr Gly Leu Ile Ser Val Ser Tyr Asp Glu Trp Asp Tyr Gly
        275                 280                 285

Leu Pro Ala Arg Val Arg Asp Gly Ile Ala Ile Ile Thr Thr Ala Ala
    290                 295                 300

Ser Asp Met Leu Ser Glu His Ser Phe Ile Pro Glu Pro Lys Ser Ser
305                 310                 315                 320

Cys Tyr Asn Thr His Glu Lys Arg Ile Tyr Gln Ser Asn Met Leu Asn
                325                 330                 335

Arg Tyr Leu Ile Asn Val Thr Phe Glu Gly Arg Asn Leu Ser Phe Ser
            340                 345                 350

Glu Asp Gly Tyr Gln Met His Pro Lys Leu Val Ile Ile Leu Leu Asn
        355                 360                 365
```

```
Lys Glu Arg Lys Trp Glu Arg Val Gly Lys Trp Lys Asp Lys Ser Leu
    370                 375                 380

Gln Met Lys Tyr Tyr Val Trp Pro Arg Met Cys Pro Glu Thr Glu Glu
385                 390                 395                 400

Gln Glu Asp Asp His Leu Ser Ile Val Thr Leu Glu Glu Ala Pro Phe
                405                 410                 415

Val Ile Val Glu Ser Val Asp Pro Leu Ser Gly Thr Cys Met Arg Asn
            420                 425                 430

Thr Val Pro Cys Gln Lys Arg Ile Val Thr Glu Asn Lys Thr Asp Glu
        435                 440                 445

Glu Pro Gly Tyr Ile Lys Lys Cys Cys Lys Gly Phe Cys Ile Asp Ile
    450                 455                 460

Leu Lys Lys Ile Ser Lys Ser Val Lys Phe Thr Tyr Asp Leu Tyr Leu
465                 470                 475                 480

Val Thr Asn Gly Lys His Gly Lys Lys Ile Asn Gly Thr Trp Asn Gly
                485                 490                 495

Met Ile Gly Glu Val Val Met Lys Arg Ala Tyr Met Ala Val Gly Ser
            500                 505                 510

Leu Thr Ile Asn Glu Glu Arg Ser Glu Val Val Asp Phe Ser Val Pro
        515                 520                 525

Phe Ile Glu Thr Gly Ile Ser Val Met Val Ser Arg Ser Asn Gly Thr
    530                 535                 540

Val Ser Pro Ser Ala Phe Leu Glu Pro Phe Ser Ala Asp Val Trp Val
545                 550                 555                 560

Met Met Phe Val Met Leu Leu Ile Val Ser Ala Val Ala Val Phe Val
```

565 570 575

Phe Glu Tyr Phe Ser Pro Val Gly Tyr Asn Arg Cys Leu Ala Asp Gly
580 585 590

Arg Glu Pro Gly Gly Pro Ser Phe Thr Ile Gly Lys Ala Ile Trp Leu
595 600 605

Leu Trp Gly Leu Val Phe Asn Asn Ser Val Pro Val Gln Asn Pro Lys
610 615 620

Gly Thr Thr Ser Lys Ile Met Val Ser Val Trp Ala Phe Phe Ala Val
625 630 635 640

Ile Phe Leu Ala Ser Tyr Thr Ala Asn Leu Ala Ala Phe Met Ile Gln
645 650 655

Glu Glu Tyr Val Asp Gln Val Ser Gly Leu Ser Asp Lys Lys Phe Gln
660 665 670

Arg Pro Asn Asp Phe Ser Pro Pro Phe Arg Phe Gly Thr Val Pro Asn
675 680 685

Gly Ser Thr Glu Arg Asn Ile Arg Asn Asn Tyr Ala Glu Met His Ala
690 695 700

Tyr Met Gly Lys Phe Asn Gln Arg Gly Val Asp Asp Ala Leu Leu Ser
705 710 715 720

Leu Lys Thr Gly Lys Leu Asp Ala Phe Ile Tyr Asp Ala Ala Val Leu
725 730 735

Asn Tyr Met Ala Gly Arg Asp Glu Gly Cys Lys Leu Val Thr Ile Gly
740 745 750

Ser Gly Lys Val Phe Ala Ser Thr Gly Tyr Gly Ile Ala Ile Gln Lys
755 760 765

```
Asp Ser Gly Trp Lys Arg Gln Val Asp Leu Ala Ile Leu Gln Leu Phe
    770                 775                 780

Gly Asp Gly Glu Met Glu Glu Leu Glu Ala Leu Trp Leu Thr Gly Ile
785                 790                 795                 800

Cys His Asn Glu Lys Asn Glu Val Met Ser Ser Gln Leu Asp Ile Asp
                805                 810                 815

Asn Met Ala Gly Val Phe Tyr Met Leu Gly Ala Ala Met Ala Leu Ser
            820                 825                 830

Leu Ile Thr Phe Ile Cys Glu His Leu Phe Tyr Trp Gln Phe Arg His
        835                 840                 845

Cys Phe Met Gly Val Cys Ser Gly Lys Pro Gly Met Val Phe Ser Ile
    850                 855                 860

Ser Arg Gly Ile Tyr Ser Cys Ile His Gly Val Ala Ile Glu Glu Arg
865                 870                 875                 880

Gln Ser Val Met Asn Ser Pro Thr Ala Thr Met Asn Asn Thr His Ser
                885                 890                 895

Asn Ile Leu Arg Leu Leu Arg Thr Ala Lys Asn Met Ala Asn Leu Ser
            900                 905                 910

Gly Val Asn Gly Ser Pro Gln Ser Ala Leu Asp Phe Ile Arg Arg Glu
        915                 920                 925

Ser Ser Val Tyr Asp Ile Ser Glu His Arg Arg Ser Phe Thr His Ser
    930                 935                 940

Asp Cys Lys Ser Tyr Asn Asn Pro Pro Cys Glu Glu Asn Leu Phe Ser
945                 950                 955                 960

Asp Tyr Ile Ser Glu Val Glu Arg Thr Phe Gly Asn Leu Gln Leu Lys
                965                 970                 975
```

```
Asp Ser Asn Val Tyr Gln Asp His Tyr His His His His Arg Pro His
            980                 985                 990

Ser Ile Gly Ser Ala Ser Ser Ile  Asp Gly Leu Tyr Asp  Cys Asp Asn
        995                 1000                1005

Pro Pro  Phe Thr Thr Gln Ser  Arg Ser Ile Ser Lys  Lys Pro Leu
    1010                1015                1020

Asp Ile  Gly Leu Pro Ser Ser  Lys His Ser Gln Leu  Ser Asp Leu
    1025                1030                1035

Tyr Gly  Lys Phe Ser Phe Lys  Ser Asp Arg Tyr Ser  Gly His Asp
    1040                1045                1050

Asp Leu  Ile Arg Ser Asp Val  Ser Asp Ile Ser Thr  His Thr Val
    1055                1060                1065

Thr Tyr  Gly Asn Ile Glu Gly  Asn Ala Ala Lys Arg  Arg Lys Gln
    1070                1075                1080

Gln Tyr  Lys Asp Ser Leu Lys  Lys Arg Pro Ala Ser  Ala Lys Ser
    1085                1090                1095

Arg Arg  Glu Phe Asp Glu Ile  Glu Leu Ala Tyr Arg  Arg Arg Pro
    1100                1105                1110

Pro Arg  Ser Pro Asp His Lys  Arg Tyr Phe Arg Asp  Lys Glu Gly
    1115                1120                1125

Leu Arg  Asp Phe Tyr Leu Asp  Gln Phe Arg Thr Lys  Glu Asn Ser
    1130                1135                1140

Pro His  Trp Glu His Val Asp  Leu Thr Asp Ile Tyr  Lys Glu Arg
    1145                1150                1155

Ser Asp  Asp Phe Lys Arg Asp  Ser Val Ser Gly Gly  Gly Pro Cys
    1160                1165                1170
```

```
Thr Asn  Arg Ser His Ile Lys  His Gly Thr Gly Asp  Lys His Gly
    1175                 1180                 1185

Val Val  Ser Gly Val Pro Ala  Pro Trp Glu Lys Asn  Leu Thr Asn
    1190                 1195                 1200

Val Glu  Trp Glu Asp Arg Ser  Gly Gly Asn Phe Cys  Arg Ser Cys
    1205                 1210                 1215

Pro Ser  Lys Leu His Asn Tyr  Ser Thr Thr Val Thr  Gly Gln Asn
    1220                 1225                 1230

Ser Gly  Arg Gln Ala Cys Ile  Arg Cys Glu Ala Cys  Lys Lys Ala
    1235                 1240                 1245

Gly Asn  Leu Tyr Asp Ile Ser  Glu Asp Asn Ser Leu  Gln Glu Leu
    1250                 1255                 1260

Asp Gln  Pro Ala Ala Pro Val  Ala Val Thr Ser Asn  Ala Ser Thr
    1265                 1270                 1275

Thr Lys  Tyr Pro Gln Ser Pro  Thr Asn Ser Lys Ala  Gln Lys Lys
    1280                 1285                 1290

Asn Arg  Asn Lys Leu Arg Arg  Gln His Ser Tyr Asp  Thr Phe Val
    1295                 1300                 1305

Asp Leu  Gln Lys Glu Glu Ala  Ala Leu Ala Pro Arg  Ser Val Ser
    1310                 1315                 1320

Leu Lys  Asp Lys Gly Arg Phe  Met Asp Gly Ser Pro  Tyr Ala His
    1325                 1330                 1335

Met Phe  Glu Met Ser Ala Gly  Glu Ser Thr Phe Ala  Asn Asn Lys
    1340                 1345                 1350

Ser Ser  Val Pro Thr Ala Gly  His His His His Asn  Asn Pro Gly
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1355 1360 1365

Gly Gly Tyr Met Leu Ser Lys Ser Leu Tyr Pro Asp Arg Val Thr
1370 1375 1380

Gln Asn Pro Phe Ile Pro Thr Phe Gly Asp Asp Gln Cys Leu Leu
1385 1390 1395

His Gly Ser Lys Ser Tyr Phe Phe Arg Gln Pro Thr Val Ala Gly
1400 1405 1410

Ala Ser Lys Ala Arg Pro Asp Phe Arg Ala Leu Val Thr Asn Lys
1415 1420 1425

Pro Val Val Ser Ala Leu His Gly Ala Val Pro Ala Arg Phe Gln
1430 1435 1440

Lys Asp Ile Cys Ile Gly Asn Gln Ser Asn Pro Cys Val Pro Asn
1445 1450 1455

Asn Lys Asn Pro Arg Ala Phe Asn Gly Ser Ser Asn Gly His Val
1460 1465 1470

Tyr Glu Lys Leu Ser Ser Ile
1475 1480

<210> 11
<211> 531
<212> PRT
<213> homo sapiens

<400> 11

Arg Ser Gln Lys Ser Pro Pro Ser Ile Gly Ile Ala Val Ile Leu Val
1 5 10 15

Gly Thr Ser Asp Glu Val Ala Ile Lys Asp Ala His Glu Lys Asp Asp
20 25 30

Phe His His Leu Ser Val Val Pro Arg Val Glu Leu Val Ala Met Asn

```
        35                  40                  45

Glu Thr Asp Pro Lys Ser Ile Ile Thr Arg Ile Cys Asp Leu Met Ser
    50                  55                  60

Asp Arg Lys Ile Gln Gly Val Val Phe Ala Asp Asp Thr Asp Gln Glu
65                  70                  75                  80

Ala Ile Ala Gln Ile Leu Asp Phe Ile Ser Ala Gln Thr Leu Thr Pro
                85                  90                  95

Ile Leu Gly Ile His Gly Gly Ser Ser Met Ile Met Ala Asp Lys Asp
            100                 105                 110

Glu Ser Ser Met Phe Phe Gln Phe Gly Pro Ser Ile Glu Gln Gln Ala
        115                 120                 125

Ser Val Met Leu Asn Ile Met Glu Glu Tyr Asp Trp Tyr Ile Phe Ser
    130                 135                 140

Ile Val Thr Thr Tyr Phe Pro Gly Tyr Gln Asp Phe Val Asn Lys Ile
145                 150                 155                 160

Arg Ser Thr Ile Glu Asn Ser Phe Val Gly Trp Glu Leu Glu Glu Val
                165                 170                 175

Leu Leu Leu Asp Met Ser Leu Asp Asp Gly Asp Ser Lys Ile Gln Asn
            180                 185                 190

Gln Leu Lys Lys Leu Gln Ser Pro Ile Ile Leu Leu Tyr Cys Thr Lys
        195                 200                 205

Glu Glu Ala Thr Tyr Ile Phe Glu Val Ala Asn Ser Val Gly Leu Thr
    210                 215                 220

Gly Tyr Gly Tyr Thr Trp Ile Val Pro Ser Leu Val Ala Gly Asp Thr
225                 230                 235                 240
```

```
Asp Thr Val Pro Ala Glu Phe Pro Thr Gly Leu Ile Ser Val Ser Tyr
                245                 250                 255

Asp Glu Trp Asp Tyr Gly Leu Pro Ala Arg Val Arg Asp Gly Ile Ala
            260                 265                 270

Ile Ile Thr Thr Ala Ala Ser Asp Met Leu Ser Glu His Ser Phe Ile
        275                 280                 285

Pro Glu Pro Lys Ser Ser Cys Tyr Asn Thr His Glu Lys Arg Ile Tyr
    290                 295                 300

Gln Ser Asn Met Leu Asn Arg Tyr Leu Ile Asn Val Thr Phe Glu Gly
305                 310                 315                 320

Arg Asn Leu Ser Phe Ser Glu Asp Gly Tyr Gln Met His Pro Lys Leu
                325                 330                 335

Val Ile Ile Leu Leu Asn Lys Glu Arg Lys Trp Glu Arg Val Gly Lys
            340                 345                 350

Trp Lys Asp Lys Ser Leu Gln Met Lys Tyr Tyr Val Trp Pro Arg Met
        355                 360                 365

Cys Pro Glu Thr Glu Glu Gln Glu Asp Asp His Leu Ser Ile Val Thr
    370                 375                 380

Leu Glu Glu Ala Pro Phe Val Ile Val Glu Ser Val Asp Pro Leu Ser
385                 390                 395                 400

Gly Thr Cys Met Arg Asn Thr Val Pro Cys Gln Lys Arg Ile Val Thr
                405                 410                 415

Glu Asn Lys Thr Asp Glu Glu Pro Gly Tyr Ile Lys Lys Cys Cys Lys
            420                 425                 430

Gly Phe Cys Ile Asp Ile Leu Lys Lys Ile Ser Lys Ser Val Lys Phe
        435                 440                 445
```

```
Thr Tyr Asp Leu Tyr Leu Val Thr Asn Gly Lys His Gly Lys Lys Ile
    450                 455                 460

Asn Gly Thr Trp Asn Gly Met Ile Gly Glu Val Val Met Lys Arg Ala
465                 470                 475                 480

Tyr Met Ala Val Gly Ser Leu Thr Ile Asn Glu Glu Arg Ser Glu Val
                485                 490                 495

Val Asp Phe Ser Val Pro Phe Ile Glu Thr Gly Ile Ser Val Met Val
            500                 505                 510

Ser Arg Ser Asn Gly Thr Val Ser Pro Ser Ala Phe Leu Glu Pro Phe
        515                 520                 525

Ser Ala Asp
    530
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<210> 12
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<212> PRT
<213> homo sapiens

<400> 12

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Gly Tyr Ile Lys Lys Cys Cys Lys Gly Phe Cys Ile Asp Ile Leu Lys
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Lys Ile Ser Lys
            20
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<210> 13
<211> 21
<212> PRT
<213> artificial sequence

<220>
<223> artificial sequence

<400> 13

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Cys Gly Tyr Ile Lys Lys Cys Cys Lys Gly Phe Cys Ile Asp Ile Leu
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1 5 10 15

Lys Lys Ile Ser Lys
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<212> DNA
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